MS SPECIFICATION SHEET

TIRE, PNEUMATIC, AIRCRAFT, 22 X 6.6-10

This specification is approved for use by the Naval Air Systems Command,
Department of the Navy, and is available for use by all Departments
and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification
sheet and the issue of MIL-T-5041 listed in that issue of the Department of Defense Index of
Specifications and Standards (DoDISS) specified in the solicitation.

SIZE	PLY RATING 1/	STATIC LOAD RATING LB.	VERT LOAD LB.	INFL PRESS PSI RATED	BURST PRESS PSI MIN. 2/	BEAD WIDTH IN. MAX.	WEIGHT LB. MAX.	STATIC UNBAL +1/2 OZ.	TREAD 3/	MOLD SKID DEPTH MIN.	DEFLC +3% -4%
22 X 6.6-10	22TL	14,150	60,000	304	1400	1.75	32.0	15	RIB	0.22	32

1/ TL = tubeless
2/ New tire
3/ The tire shall have not less than three and not more than five grooves. The tread grooves shall be shaped,
insofar as practicable, so that foreign objects will not become trapped between the ribs.

TIRE DATA
The tire shall meet the following envelope dimensions for a new tire at rated inflation and a grown
and thrown tire at 400 psi inflation.

| TIRE DIMENSIONS (INCHES) | RATED INFLATION | | GROWN AND THROWN |
	MIN	MAX	MAX
OUTSIDE DIAMETER	21.60	22.20	23.30
SECTION WIDTH	6.40	6.80	7.14
SHOULDER DIAMETER	-	20.00	20.60
SHOULDER WIDTH	-	6.00	6.30

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RIM DATA (IN INCHES)

WIDTH BETWEEN FLANGES	FLANGE WIDTH	LEDGE DIAMETER	LEDGE WIDTH	FLANGE HEIGHT	HEEL RADIUS	FLANGE RADIUS	FLANGE EDGE RADIUS
5.50	0.875	10.00	1.75	1.00	0.250	0.625	0.1275

The tire covered by this MS specification sheet shall be suitable for use and provide reasonable service life during all normal operations at takeoff and landing speeds indicated herein on all types of runways and on aircraft carriers.

Test inflation pressure: Test tire 1 shall be inflated to give a rated deflection at rated load. Test tires 2, 3, and 4 shall be inflated to 400 pounds per square inch (psi) adjusted for flywheel curvature.

Test tire 1 shall complete sequences 1 through 8 as defined below without failure or visible deterioration other than normal expected tread wear. The tire shall then be used for test K for information only with the results included in the qualification test report.

SEQUENCE	NUMBER OF CYCLES	TEST	TEST DESCRIPTION OPERATION
1	48	A	TAXI - TAKEOFF
2	2	B	TAXI - HIGH SPEED TAKEOFF
3	48	C	LANDING - TAXI
4	2	D	HIGH SPEED LANDING - TAXI
5	1	E	REJECTED TAKEOFF
6	24	F	INBOARD CAMBER TAXI
7	24	G	OUTBOARD CAMBER TAXI
8	4	H	LONG TAXI

Test tire 2 shall complete sequences 1 through 3 as defined herein without failure or visible deterioration other than normal expected tread wear. The tire shall then be used for test K for information only with the results included in the qualification test report.

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SEQUENCE	NUMBER OF CYCLES	TEST	TEST DESCRIPTION OPERATION
1	45	I	CATAPULT CONDITION
2	1	J	BRUISE TEST
3	25	A	TAXI - TAKEOFF

Test tire 3 shall complete repeated cycles of test I until the tire shows evidence of failure or visible deterioration beyond normal tread wear. The tire shall complete not less than 45 successful cycles before failure. The results of this test are for information only with the number of cycles to failure noted in the qualification test report.

Test tire 4 shall be inflated to 400 psi and loaded against a non-deflecting flat plate to a vertical load of 61,300 pounds at a camber of not less than 5.8 degrees. The tire shall remain fully inflated and intact. The loaded radius shall be measured and recorded during the vertical camber loading procedure. This data may be used to prepare the load-deflection curve for the tire.

Test tire 5 shall withstand test K. The minimum burst pressure shall be 1400 psi.

TEST A   Taxi - takeoff. The tire shall be taxied on the flywheel at 30 miles per hour (mph) for 10,000 feet with 6,500 pounds load. Immediately following the taxi roll, the flywheel shall be accelerated at an average rate of 7.87 feet/sec/sec from 0 mph to a speed of 145 mph. The tire shall be unlanded after a takeoff roll distance of 2,920 feet has been covered. The initial takeoff load of 6,500 pounds shall be decreased linearly with time to 3,000 pounds at 26 seconds after the start of the takeoff roll and decreased to zero pounds at the end of the takeoff roll.

TEST B   Taxi - high speed takeoff. The tire shall be taxied on the flywheel at 30 mph for 10,000 feet with 6,500 pounds load. Immediately following the taxi roll, the tire shall be loaded and its speed increased linearly as follows:

TIME (SEC)	LOAD (LB)	SPEED (MPH)	DISTANCE (FT)
0	7000	0	0
13.6	6200	132	1319
14.1	5200	137	1418
26.6	900	223	4718
26.8	0	224	4784

TEST C   Landing - taxi. The tire shall be landed against a flywheel rotating at a peripheral speed of 156 mph. The flywheel speed shall then be decreased until a roll distance of approximately 4030 feet has been covered. The average deceleration rate shall be 3.52 feet/sec/sec between 156 and 132 mph, and

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9.68 feet/sec/sec between 132 and 0 mph. The tire load shall be increased linearly with time to 3,000 pounds in 1.5 seconds after landing, increased linearly with time to 3,600 pounds in 8.5 seconds, increased linearly to 5,900 pounds in 3.5 seconds, and maintained at 5,900 pounds until the tire has come to a stop. Immediately following the landing cycle, taxi the tire on the flywheel for 10,000 feet under 5,500 pounds load at 30 mph.

TEST D   High speed landing - taxi. The tire shall be landed against a flywheel rotating at a peripheral speed of 218 mph. The flywheel speed shall then be decreased until a roll distance of approximately 7,995 feet has been covered. The average deceleration rate shall be 3.26 feet/sec/sec between 218 and 198 mph and 8.0 feet/sec/sec between 198 and 0 mph. The tire load shall be increased linearly with time to 2,000 pounds in 1.5 seconds after landing, maintained at 2000 pounds for 7 seconds, increased linearly to 4,200 pounds in 3.5 seconds, then decreased linearly with time to 3,400 pounds at 45 seconds after the start of the landing roll. Immediately following the landing cycle, taxi the tire on the flywheel for 10,000 feet under 3,400 pounds load at 30 mph.

TEST E   Rejected takeoff. The tire shall be taxied on the flywheel at 30 mph for 10,000 feet with 6,500 pounds load. Immediately following the taxi roll, the tire shall be loaded and its speed increased linearly as follows:

TIME (SEC)	LOAD (LB)	SPEED (MPH)	DISTANCE (FT)
0	6500	0	0
13.7	5200	132	1329
14.0	4300	135	1388
20.2	2250	184	2839
23.8	500	206	3869
23.9	0	207	3899
25.0	2,400	225	4,248
61.0	9,400	0	10,188

Immediately after the tire is stopped, continue tire taxi on the flywheel at 30 mph for 10,000 feet with 6,500 pounds vertical load.

TEST F   Inboard camber taxi. The tire shall be taxied against a flywheel rotating at a peripheral speed of 30 mph with 6,850 pounds load for a distance of 2,500 feet with the plane of the tire inclined inboard at an angle of 15 degrees.

TEST G   Outboard camber taxi. Perform the test F spectrum with the plane of the tire 15 degrees outboard.

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TEST H   Long taxi. The tire shall be landed on the flywheel rotating at a peripheral speed of 30 mph for 30,000 feet with 6,500 pounds load.

TEST I   Catapult condition. The tire shall be accelerated from 0 to 80 mph within 6 seconds at a constant load of 2,000 pounds. Over a distance of 340 feet at a constant speed of 80 mph, the load shall be increased to 40,700 pounds within 0.55 second, decreased to 20,000 pounds within 0.3 second, increased to 40,700 pounds within 0.3 second, decreased to 30,000 pounds within 0.3 second, and increased to 40,700 pounds within 0.45 second. The tire shall be maintained at a load of 40,700 pounds for the remainder of the catapult distance and then unlanded.

TEST J   Bruise test. The tire shall be loaded against a 1-5/8 inch diameter length of plain round bar stock or arresting gear cable with a vertical load of 60,000 pounds. After release of this load, the tire shall be subjected to the same loading condition at a location 180 degrees from the initial point of loading.

TEST K   Burst test. The tire pressure shall be increased until the tire fails. The pressure, failure description, and location shall be reported in the qualification test report.

Air retention. The tire shall be inflated to a pressure of 400 psi and allowed to stand for 24 hours at which time the pressure drop due to growth shall be replaced. The tire shall then stand for an additional 24 hours at which time the pressure shall be measured and the tire inspected. The air pressure loss shall not exceed 5 percent and the tire shall not reveal any appearance and performance defects such as sidewall blisters, tread separation, etc..

Qualification test report. The qualification test report shall list the results of all qualification tests and construction details of the qualification test sample in the general form shown in figure 4 of MIL-T-5041 with dimensions listed at a rated inflation and 400 psi. A sketch of the tire profile at rated inflation and 400 psi shall be included in the report. The report shall list the manufacturer's test number.

Preparing Activity:
Navy - AS

(Project 2620-N310)